

Claims

1. A polypeptide obtained by cleaving DANCE with a DANCE-specific protease, which consists of substantially the same
5 amino acid sequence as the amino acid sequence shown by SEQ ID NO:6.
2. A polypeptide consisting of the amino acid sequence shown
10 by SEQ ID NO:6.
3. A polynucleotide having a nucleotide sequence that encodes the polypeptide of claim 1.
4. A polynucleotide consisting of the nucleotide sequence
15 shown by SEQ ID NO:5.
5. A polypeptide obtained by cleaving DANCE with a DANCE-specific protease, which consists of substantially the same amino acid sequence as the amino acid sequence shown by SEQ ID
20 NO:8.
6. A polypeptide consisting of the amino acid sequence shown by SEQ ID NO:8.
- 25 7. A polynucleotide having a nucleotide sequence that encodes the polypeptide of claim 5.
8. A polynucleotide consisting of the nucleotide sequence shown by SEQ ID NO:7.
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9. A method of cleaving DANCE, which comprises contacting DANCE with a DANCE-specific protease.
10. An antibody having specific affinity for the polypeptide

of claim 1 or 2.

11. A monoclonal antibody having specific affinity for the polypeptide of claim 5 or 6.

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12. A method comprising measuring the amount of DANCE cleaved in a biological sample from an animal.

13. A kit for measuring the amount of DANCE cleaved, which
10 comprises an anti-DANCE antibody.

14. A DANCE mutant incorporating an amino acid mutation in the DANCE cleavage site with a DANCE-specific protease so that the mutant exhibits resistance to the protease.

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15. A polynucleotide having a nucleotide sequence that encodes the polypeptide of claim 14.

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16. A DANCE complex comprising at least two DANCES.

17. The complex of claim 16 which comprises at least two kinds of DANCE which are distinguishable forms.

18. The complex of claim 16 or 17, which further comprises
25 lysyl oxidase and/or LTBP2.

19. A DANCE complex comprising at least one DANCE and lysyl oxidase and/or LTBP2.

30 20. A method of preparing a DANCE complex comprising at least two DANCES, which comprises contacting at least two DANCES to form a complex.

21. A method of preparing a DANCE complex comprising at least

one DANCE and lysyl oxidase and/or LTBP2, which comprises contacting at least one DANCE with lysyl oxidase and/or LTBP2 to form a complex.

5 22. A screening method for a substance capable of regulating the activity of a DANCE-specific protease, which comprises the following steps (a), (b) and (c):

(a) contacting a test substance with the DANCE-specific protease;

10 (b) measuring the activity of the DANCE-specific protease resulting from the step (a) above, and comparing the activity with an activity of a DANCE-specific protease obtained without contacting the test substance;

(c) selecting a test substance that regulates the activity of
15 the DANCE-specific protease on the basis of the results of the comparison in (b) above.

23. The method of claim 22 which is a method for identifying a regulator of the formation of elastic fibers.

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24. A screening method for a substance capable of regulating the activity of a DANCE-specific protease, which comprises the following steps (a), (b) and (c):

(a) administering a test substance to an animal;

25 (b) measuring the activity of the DANCE-specific protease resulting from the step (a) above, and comparing the activity with an activity of a DANCE-specific protease obtained without administering the test substance;

(c) selecting a test substance that regulates the activity of
30 the DANCE-specific protease on the basis of the results of the comparison in (b) above.

25. A screening method for a substance capable of regulating the formation of a DANCE complex comprising at least two

DANCEs, which comprises the following steps (a), (b) and (c):

(a) contacting at least two DANCEs in the presence of a test substance;

5 (b) measuring the amount of the DANCE complex resulting from the step (a) above, and comparing the amount with the amount of the DANCE complex obtained in the absence of the test substance;

(c) selecting a test substance that regulates the formation of the DANCE complex on the basis of the results of the
10 comparison in (b) above.

26. The method of claim 25 wherein at least two kinds of DANCE, which are distinguishable forms are used.

15 27. A screening method for a substance capable of regulating the formation of a DANCE complex comprising at least one DANCE and lysyl oxidase and/or LTBP2, which comprises the following steps (a), (b) and (c):

(a) contacting at least one DANCE with lysyl oxidase and/or
20 LTBP2 in the presence of a test substance;

(b) measuring the amount of the DANCE complex resulting from the step (a) above, and comparing the amount with the amount of the DANCE complex obtained in the absence of the test substance;

25 (c) selecting a test substance that regulates the formation of the DANCE complex on the basis of the results of the comparison in (b) above.

28. A regulator of the formation of elastic fibers obtained by
30 the method of any one of claims 23 to 27.

29. A screening method for a DANCE-specific protease with DANCE cleavage activity as the index.

30. A DANCE-specific protease obtained by the method of claim 29.

31. A polynucleotide having a nucleotide sequence that encodes
5 the DANCE-specific protease obtained by the method of claim 29.

32. An agent for regulating the formation of elastic fibers comprising the DANCE-specific protease of claim 30 or the
10 polynucleotide of claim 31.

33. A kit comprising the following (a) and (b):

(a) DANCE or a polynucleotide having a nucleotide sequence that encodes DANCE;

15 (b) at least one of the following components (i) to (vi);

(i) DANCE which is a distinguishable form from the DANCE (a);

(ii) a polynucleotide having a nucleotide sequence that encodes DANCE which is a distinguishable form from the DANCE (a);

20 (iii) lysyl oxidase;

(iv) a polynucleotide having a nucleotide sequence that encodes lysyl oxidase;

(v) LTBP2;

25 (vi) a polynucleotide having a nucleotide sequence that encodes LTBP2.

34. A method of identifying a cell expressing a DANCE-specific protease, which comprises the following steps (a) to (b):

(a) contacting DANCE with a certain animal cell;

30 (b) determining whether or not the DANCE is cleaved.